

Appi. No. 10/820,575
Office Action dated November 30, 2005

In the Claims

Claims 1-18 [canceled].

19. [Currently Amended] An apparatus comprising:

a container configured to provide a subject material in a substantially static state;

and

~~at least one sensor provided at a predefined position relative to the container to monitor the turbidity of the subject material at a desired vertical position of the container~~
a plurality of sensors individually configured to monitor turbidity of the subject material,
wherein the sensors are individually configured to monitor the turbidity using particulate
matter of the subject material, and wherein the particulate matter monitored by one of
the sensors is different than the particulate matter monitored by an other of the sensors.

20. [Currently Amended] The apparatus according to claim 19 wherein the at

~~least one sensor comprises a plurality of sensors~~ are provided at different predefined positions relative to the container to monitor the turbidity of the subject material at a plurality of ~~desired~~ vertical positions of the container.

21. [Currently Amended] The apparatus according to claim 19 wherein the at

~~least one sensor comprises~~ sensors individually comprise:

a source configured to emit electromagnetic energy towards the container; and

a receiver configured to receive at least some of the electromagnetic energy.

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Claims 22-48 [canceled].

49. [Currently Amended] A turbidity monitoring method comprising:
providing a container;
providing subject material in a substantially static condition within the container;
monitoring the turbidity of the subject material at a predefined vertical position within the container; and
generating a signal indicative of the turbidity of the subject material after the monitoring; and
wherein the subject material comprises a fluid and particulate matter within the fluid, and wherein the monitoring comprises monitoring settling of the particulate matter within the fluid.

50. [Original] The method according to claim 49 further comprising monitoring the turbidity of the subject material at another predefined vertical position within the container.

51. [Original] The method according to claim 49 wherein the monitoring comprises:
emitting electromagnetic energy towards the subject material; and
receiving at least some of the electromagnetic energy.

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52. [Original] The method according to claim 49 further comprising rotating the subject material during the monitoring.

Claims 53-58 [canceled].

59. [Previously Presented] The method according to claim 49 wherein the monitoring comprises monitoring the turbidity of the subject material provided in the substantially static condition.

60. [Currently Amended] The apparatus according to claim 19 wherein the at ~~least one sensor monitors~~ sensors individually monitor the turbidity of the subject material in the substantially static state.

Claims 61-62 [canceled].

63. [Previously Presented] The apparatus according to claim 19 further comprising a process chamber configured to receive and process a semiconductor workpiece using the subject material.

64. [Previously Presented] A sensor comprising:
a source configured to emit electromagnetic energy towards a subject material;
an initial receiver configured to receive at least some of the electromagnetic energy, the initial receiver being configured to generate a signal indicative of the

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turbidity of the subject material and responsive to the received electromagnetic energy;
and

a housing configured to align the source and initial receiver with respect to the subject material;

wherein the housing is configured to attach to a supply connection containing the subject material and detach from the supply connection without disruption of the flow of subject material within the supply connection.

65. [Previously Presented] The apparatus according to claim 19 wherein the subject material comprises a fluid and particulate matter within the fluid, and wherein the at least one sensor is configured to monitor settling of the particulate matter within the fluid.

66. [Currently Amended] The apparatus according to claim 19 wherein the subject material comprises a fluid and the particulate matter within the fluid, and wherein the ~~at least one sensor is~~ sensors are individually configured to monitor a precipitation rate of the particulate matter within the fluid.

67. [Currently Amended] The apparatus according to claim 19 further comprising a computer coupled with the ~~at least one sensor~~ sensors and configured to access information regarding the turbidity of the subject material.

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68. [Currently Amended] The apparatus according to claim 19 wherein the subject material comprises a fluid and the particulate matter within the fluid, and wherein the ~~at least one sensor is~~ sensors are individually configured to monitor turbidity including monitoring all particulate matter suspended in the fluid at ~~the desired~~ a respective vertical position of the container corresponding to a vertical position of the respective sensor.

69. [Currently Amended] The apparatus according to claim 19 wherein the container containing the subject material is configured to rotate about an axis during the monitoring of turbidity by the ~~at least one sensor~~ sensors.

70. [Canceled].

71. [Currently Amended] The method according to claim 49 ~~wherein the subject material comprises a fluid and particulate matter within the fluid, and~~ wherein the monitoring comprises monitoring precipitation rates of the particulate matter within the fluid.

72. [Previously Presented] The method according to claim 49 further comprising, using a computer, providing information regarding the turbidity of the subject material using the signal.

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73. [Currently Amended] The method according to claim 49 ~~wherein the subject material comprises a fluid and particulate matter within the fluid, and~~ wherein the monitoring comprises monitoring turbidity with respect to all particulate matter suspended in the fluid at the predefined vertical position within the container.

74. [Previously Presented] The method according to claim 49 further comprising rotating the container comprising the subject material about an axis during the monitoring.

75. [New] The apparatus according to claim 19 wherein the particulate matter monitored by the one and other of the sensors are within different portions of the subject material.

76. [New] The apparatus according to claim 19 wherein the particulate matter monitored by the one and other of the sensors are located at different vertical positions of the subject material.

77. [New] The apparatus according to claim 19 further comprising a computer configured to calculate information regarding settling of particulate matter within the subject material using information from the one and other sensors.

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78. [New] The method according to claim 49 wherein the monitoring the turbidity comprises monitoring the turbidity of the subject material at a plurality of different vertical positions within the container using a plurality of sensors.

79. [New] The method according to claim 78 wherein the monitoring comprises monitoring particulate matter of the subject material, and wherein the particulate matter monitored by one of the sensors is different than the particulate matter monitored by an other of the sensors.

80. [New] The method according to claim 78 further comprising wherein the monitoring of the settling of particulate matter within the fluid comprises monitoring using information from the plurality of sensors.